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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,005	06/16/2000	James Norman Cawse	RD-27,442/USA	2521

6147 7590 05/20/2002

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EXAMINER

MAHATAN, CHANNING

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 05/20/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/595,005

Applicant(s)

CAWSE ET AL.

Examiner

Channing S. Mahatan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2002, in Paper No. 8.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 11, 13 and 16-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 14 is/are objected to.
- 8) ☒ Claim(s) 1-41 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 January 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) 1 Sheet. 6) ☐ Other:

DETAILED ACTION

APPLICANTS' ELECTION

Applicants' election with traverse of Group I (Claims 1-33 and 40; drawn to a method of classification), Species A-1 (Claim 3; random identification of populations of entities), and Species B-5 (Claim 2; mutation, crossover, and selection) filed 15 April 2002, in Paper No. 8, is acknowledged. Because applicants did not distinctly and specifically point out the supposed errors in the restriction/election requirement, the election has been treated as an election without traverse (M.P.E.P. § 818.03(a)). Claims 11, 13, and 16-41 are withdrawn from consideration as not directed to the elected group and/or species. It is noted that upon the allowance of a generic claim, applicants' will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 C.F.R. § 1.141.

CLAIMS UNDER EXAMINATION

Claims herein under examination are claims 1-10, 12, 14, and 15.

Claims Rejected Under 35 U.S.C. § 112 2nd Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 7, 10, 12, and 14 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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VAGUE AND INDEFINITE

Claims 6 (line 2), 7 (line 4), and 10 (line 4) recites the phrase “selecting” implies a criteria for the said selection. Applicants can resolve this issue by particularly pointing out the criteria for “selecting”: 1. limited to requiring some size/range or 2. inclusive of random arbitrary selection. The implied criterion is critical in applying it to “selecting” The criteria for “selecting” is unclear. Clarification is required via clearer claim wording.

Claim 12 (line 2-3) recites the phrase “a fit entity is identified” implies that “a fit entity” is chosen by some kind of criteria. Applicants can resolve this issue by particularly pointing out what criteria “a fit entity is identified” by: 1) limited to requiring some value or 2) inclusive of a random arbitrary amount. The implied criterion is critical in applying it to identifying “a fit entity”, and therefore it is unclear. Clarification is required via clearer claim wording.

Claim 14 (line 6) recites the phrase “having a thickness sufficient to allow a reaction rate” which is vague and indefinite. Applicants can resolve this issue by particularly pointing out how or the value of thickness being referred to which would be sufficient to allow a reaction rate. Clarification is required via clearer claim wording.

Claims Rejected Under 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12, 14, and 15 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Singh et al.

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Singh et al. describes a computational method of identifying and optimizing lead compounds utilizing genetic algorithms for combinatorial/chemical synthesis (Title, Abstract, and p 1670, Column 1, line 6). The authors state the useful application of said method can be directed to high-throughput screening for the identification of new lead compounds for various molecular targets (p. 1669, Column 1, lines 3-6). Singh et al. describes the basic ideas of the genetic algorithm (GA) method and the use as a tool for the selection and representation of chemical structures (p 1670, Column 1, lines 30-36). The genetic algorithm used is based on three basic strategies: selection, crossover, and mutation (p1670, Columns 1-2, lines 40-42 and 1-7, respectively). It is noted that the said GA paradigm employed is a modified version of the Genesis GA code and is outlined in Scheme 2 (p 1670). Each individual of a population is represented by a bit string, which is defined as a sequence of 1's and 0's (p 1670, Column 2, lines 11-17). An initial set of N_{pop} individuals is formed by choosing a set of N_b -bit strings at random and each member is synthesized and evaluated for fitness, a list of pairs for mating is produced, subsequent generations are formed where each member of the first generation is ranked by fitness, the fittest individual is placed into the next generation, and the pairs of individuals are crossed-over to form the next generation (p 1670, Column 2, lines 23-37). Singh et al. implements and summarizes (Scheme 3) the above described method to an initial random population, synthesizes said first population, determines the fitness of the first population, executes the modified genetic algorithm, repeats the method for 5 generations, and identifies active samples (p 1671, Columns 1-2, lines 18-55 and 1-46, respectively). After selection of active samples fragment structures are identified by amino acid and mass spectral analyses, which utilizes reactants in liquid as well as gas forms as required in instant claim 14 (p 1671,

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Column 2, lines 37-43; Reference 24, lines 2-17). Thus, Singh et al. clearly anticipate the claimed invention.

OBJECTION TO CLAIMS

Claims 6, 7, and 14 are objected for containing minor informalities:

Claims 6 and 7 the comma following "16" and "17" should be replaced with a period.

Claim 14, lacks a period after "14".

Claim 14 (line 10), the term "send" should be corrected to "second".

OBJECTION TO DISCLOSURE

The disclosure is objected to because of the following informalities:

In the specification on page 15, lines 1-3 and Table 5, requires line spacing correction.

The specification is required to be either double-spaced or at least 1 ½ spaced and not single-spaced.

Appropriate Correction Is Required.

No Claims Are Allowed.

EXAMINER INFORMATION

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 C.F.R. § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Channing S. Mahatan whose telephone number is (703) 308-2380. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward, Ph.D., can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst, William Phillips, whose telephone number is (703) 305-3482 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

Date: May 16, 2002
Examiner Initials: GSV

Ardin H. Marschel
ARDIN H. MARSCHEL
PRIMARY EXAMINER